Attached hereto is a marked up version of the changes made to the specification, abstract, and claims by the current amendment. The attached is captioned "**Version with markings to show changes made**".

In the event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 501871** referencing docket number P1999,0004USN. However, the Commissioner is NOT authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

by: [signature]
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VERSION WITH MARKINGS TO SHOW CHANGES MADE

For the convenience of the Examiner, the changes made are shown below with deleted test in strikethrough and added text in underline.

In the Specification:

Page 1 before the first paragraph, has been amended to include the following insert:
This application claims priority to International Application No.: PCT/DE00/04270 which was published June 7, 2001. This application further claims priority to German patent application 199957611.4 filed 30 November, 1999.

Page 1, between lines 4 and 5 has been amended to include the following heading:
TECHNICAL FIELD OF THE INVENTION.

Paragraph beginning on line 5 of page 1 has been amended as follows:
The invention relates generally to an illumination arrangement having an optical waveguide, a light source, ~~which couples emitted light into the optical waveguide~~coupled thereto, and ~~having~~ a mount for the optical waveguide.

Page 1, between lines 9 and 10 has been amended to include the following heading:
BACKGROUND OF THE INVENTION.

Paragraph beginning on line 10 of page 1 has been amended as follows:
Known illumination ~~Arrangements~~ arrangements ~~of this type, in which~~ wherein the light source comprises a light-emitting diode or a laser diode, is often used ~~as light source, have applications in~~ for general illumination or ~~as~~ background illumination for liquid-crystal displays (LCD). ~~In this case~~Herein, the optical waveguide ~~performs the function of guiding the~~ directs light, ~~which is~~ emitted by the coupled light source, ~~and is coupled~~ out from the optical waveguide at ~~the~~ a waveguide end ~~of the optical waveguide~~ or at a centrally located window ~~provided for this~~. In the latter example, ~~The~~ the surface of the optical waveguide is structured ~~for this purpose~~ in the window region, e.g. by knobs, grooves, or by some other roughening in order to homogenize the light exit. The optical waveguides are composed of transparent material, ~~for example~~ such as epoxy resin or polymethyl methacrylate (PMMA). In the course of guiding the light and its ~~necessary deflection in the optical waveguide, on~~

~~the one hand the light lost must be~~ internal reflections, it is desirable to have as little light loss as possible, ~~and on the other hand~~while maintaining cost-effective production and ~~also~~ practical and simple assembly ~~must be possible~~.

Paragraph beginning on line 31 of page 1 has been amended as follows:

~~In the examplary embodiment~~ A related art embodiment is shown in Figure 5. Here, a light-emitting diode 50 (LED) is coupled ~~couples its light~~ into an optical waveguide 51 which in turn is plugged into a mount 52a, 52b. The mount 52 and ~~the light emitting diode~~LED 50 are mounted on a printed circuit board (PCB) 53. The light emitted by the ~~light emitting diode~~ LED 50 is ~~deflected~~ internally reflected at ~~a~~ bevel 54 ~~of the optical waveguide by total reflection~~. For production engineering reasons, in particular in favor of ease of assembly, the bevel 54 is not covered with a reflective material. During the ~~deflection~~ internal reflection of ~~the~~ light at ~~the~~ bevel 54, ~~which is~~ angled ~~by~~ preferably at 45°, light necessarily emerges from the optical waveguide~~,~~. ~~which~~ This light is lost for the envisaged application ~~purpose~~ since it is not guided any further in the optical waveguide. On the other side, the mounts 52a, 52b simultaneously serve as reflectors which prevent light from emerging from the optical waveguide 51 on these sides. When observing the surface of the optical waveguide from the direction B, for example when the optical waveguide is embodied as LCD background illumination, some regions on the optical waveguide surface appear brighter than others (hot spots) as a result of the light ~~deflection~~ internal reflection at the boundary surface 54 and the direct radiation of the light source. Hot spots are bright surface regions which appear in a light exit window and cannot be corrected by the surface configuration of the optical waveguide in the light exit window. Producing a special reflector for the inclined surface 54 in the form of an injection-molded part ~~seems to be too~~ is costly ~~, on the other hand, on an industrial scale since it is too expensive overall~~ and undesirable.

On page 2, between lines 23 and 24 please insert the following heading and paragraphs:

SUMMARY OF THE INVENTION

An advantage of the present invention is set out in a cost effective and easy to use illumination arrangement which can be produced at reduced engineering and manufacturing costs, be designed for high replication, and preserve, maximize and/or increase board space for component mounting.

These and other advantages of the present invention are accomplished by an illumination arrangement, comprising: an optical waveguide; at least one light source for emitting light into the waveguide, the at least one light source coupled to the waveguide; and a housing defining a cavity for accommodating the waveguide and at least one light source therein, the housing further defining contiguous upper, lower and side walls, the upper and lower walls having reflective internal surfaces, and the upper wall defining a window from which light emitted by the waveguide escapes the housing. In addition, these and other advantages of the present invention are accomplished by a method for producing a light emitting component, comprising the steps of: forming a housing having a cavity defined by cooperating bottom, side and top walls, said walls having internal surfaces defining said cavity and external surfaces defining an outer perimeter of said housing, said internal surfaces being light reflecting, said walls being opaque, and said top walls defining rounded corners and a window; forming at least one light emitting source; forming an optical waveguide; forming a printed circuit board having means for facilitating communication of electricity to elements mounted thereon; mounting said waveguide within said cavity; mounting said at least one light emitting source on said board such that electricity is communicated to said light emitting source; mounting said housing over said at least one light emitting source, such that said source is coupled to said waveguide and light emitting from said source is transmitted by said waveguide and out said window.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

The novel features believed characteristic of the invention are set out in the claims below. The invention itself, however, as well as other features and advantages thereof, are best understood by reference to the detailed description, which follows, when read in conjunction with the accompanying drawings, wherein:

Paragraphs beginning on line 24, page 2; on line 30, page 2; and on line 34, page 2; have been deleted.

Page 3, between lines 10 and 11 has been amended to include the following heading: DETAILED DESCRIPTION OF THE INVENTION.

Paragraph beginning on line 13, page 5, has been amended as follows:

Figure 2b shows another arrangement for the two shell elements. In this case, the optical waveguide is firstly introduced from the side into a shell element 22, which encloses the optical waveguide to an extent such that only a cover 23 has to be laterally ~~em~~placed in order to enclose the optical waveguide in the light-guiding region. In this exemplary embodiment, the connection between the shell elements 22 and 23 is effected by a plurality of snap-action devices 27, 28. Projecting knobs are arranged on the shell element 22 and the openings in the lugs 28 can latch into said knobs. The advantage of this arrangement is the releasiability of the mount arrangement. ~~It goes without saying that, in~~In an embodiment of Figure 2a, too, the shell elements 22 and 23 can be provided with a fold, so that no light ~~can~~ emerges at the abutting surface.

Paragraph beginning on line 30, page 5 has been amended as follows:

In the arrangement in accordance with Figure 1, it is possible to feed in light from only one light source 12. Preferably, however, a plurality of light sources 12a, 12b are provided, which, as in Figure 1, feed light into the optical waveguide from both sides. What is more, further light sources may be arranged perpendicularly to the plane of the drawing. This makes it possible to observe a high light intensity at the window 13. With the arrangement in accordance with Figure 1, it is possible for the light that is to be couple out, or the observation window 13, to be arranged remote from the light source 12. The optical waveguide 11 and the shell mount 10 can be produced extremely favorably by virtue of the production of injection-molded parts, at the same time the light guidance by virtue of the form of the optical waveguide channels and of the shell mount designed as reflectors being effected so optimally that a maximum of light can be utilized for the illumination purposes. The construction in the form of a bridge, means that it is possible to produce ~~extremely~~ a space-saving arrangements ~~because~~wherein, below the mount 10, in the free space toward the circuit board 14, ~~further~~ components 15 can be arranged on the circuit board.

In the Claims:

On page 8, line 1, please replace "Patent Claims" with --WE CLAIM:--

The claims beginning on page 8 and ending on page 11 have been replaced by the following new claims:

18. An illumination arrangement, comprising:

an optical waveguide;

at least one light source for emitting light into the optical waveguide, the at least one light source coupled to the optical waveguide; and

a housing defining a cavity for accommodating the optical waveguide and at least one light source therein, the housing further defining contiguous upper, lower and side walls, the upper and lower walls having reflective internal surfaces, and the upper wall defining a window from which light emitted by the optical waveguide escapes the housing.

19. The arrangement according to claim 18, wherein said housing defines a bridge over a second cavity.

20. The arrangement according to claim 18, wherein said housing is mounted on a printed circuit board, and further comprising means for facilitating electrical communication between an external power source and said at least one light source via said printed circuit board.

21. The arrangement according to claim 19, wherein said housing is mounted on a printed circuit board and the second cavity is between said housing and said board, and further comprising means for facilitating electrical communication between an external power source and said at least one light source via said printed circuit board.

22. The arrangement according to claim 21, further comprising components mounted on said printed circuit board within said second cavity.

23. The arrangement according to claim 18, wherein surface of said side walls facing said cavity is reflective.

24. The arrangement according to claim 18, wherein said housing comprises a plurality of mating parts.

25. The arrangement according to claim 24, wherein said plurality of mating parts snap fit together.

26. The arrangement according to claim 24, wherein said plurality of mating parts cooperate to form an opaque overhang where said parts join.

27. The arrangement according to claim 24, wherein said parts are approximately inversely symmetrical.

28. The arrangement according to claim 24, wherein said parts are injection molding.

29. The arrangement according to claim 18, wherein said lower wall is convex.

30. The arrangement according to claim 18, wherein said upper wall is angled.

31. The arrangement according to claim 18, wherein said housing further comprises means for accommodating a plurality of light emitting sources such that emission from said sources are caused to emit in different directions.

32. The arrangement according to claim 31, wherein said waveguide emits a combination of emission from said plurality of light emitting sources.

33. The arrangement according to claim 18 wherein said at least one light source comprises a light emitting diode.

34. The arrangement according to claim 18, wherein said at least one light source comprises a laser diode.

35. A method for producing a light emitting component, comprising the steps of:

- forming a housing bottom, side and top walls, said walls having reflective internal surfaces defining a cavity, and said top wall defining a window;
- mounting an optical waveguide within said cavity;
- mounting at least one light emitting source within said cavity such that said at least one light emitting source is coupled to said optical waveguide such that light emitting from said source is transmitted by said optical waveguide out said window.

36. The method according to claim 35, further comprising the step of:

- mounting said housing on a printed circuit board such that said lower wall and said printed circuit board cooperate to define a second cavity; and
- mounting components within said second cavity on said board.

37. The method according to claim 35, wherein said lower wall is convex and said housing comprises a plurality of snap fitted components which mate to form said housing.

In the Abstract:

The paragraph beginning on line 5 of page 12, has been amended as follows:

The invention describes an illumination arrangement having an optical waveguide ~~(11; 31; 43)~~, a light source ~~(12; 32, 33; 41)~~, which couples emitted light into the optical waveguide, and ~~having~~ a mount ~~(10; 20, 21; 22, 23; 30, 35, 38; 40, 42)~~, which is formed as a shell from a plurality of shell elements which are connected to one another and enclose the optical waveguide at least in regions in which the light is intended to be deflected. A method for producing an illumination arrangement is also specified.

The paragraph of line 16, page 12 has been deleted.